American Druggist
AN ILLUSTRATED TRADE JOURNAL.
VOL. XXI. NO. 8. NEW YORK, APRIL 15TH, 1892. WHOLE NO. 230.

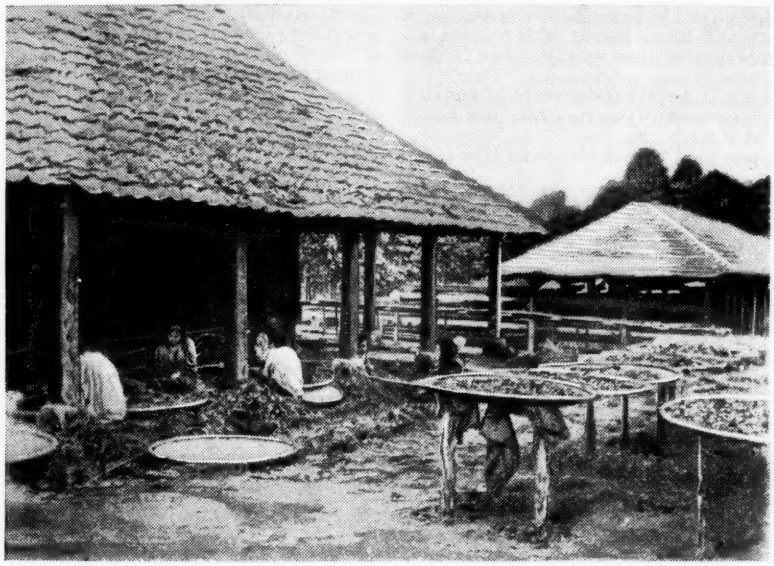


FIG. 1.—At the left, picking over bark; at the right, drying bark on roller boxes and tanipirs.

NOTES ON CINCHONA CULTIVATION.

THE following notes and illustrations are taken from an important work by Prof. A. Tschirch,* of Berne, which has just been published, on medicinal and useful plants of the East Indies and their cultivation. We can only give a portion of the text on the subject of cinchona, and some of it in abstract. The author's statements are of great interest, since he has obtained and collected his information and data on the spot and had access to official sources.

In order to explain the management of a cinchona plantation, the author invites the reader to accompany him on an excursion from Bandong—the centre of the cinchona districts of the Preang Residency—into the mountains which surround the high plateau on all sides, and more particularly to the plantation at Lembang.

The first visit was paid to the propagation house (kweekhuis, kweekkas, or broeikas) and to the nurseries ("pepinières").

The soil is dug up to a width of about 1½ M., and over this space is erected a roof of stripped cinchona stems and bamboo, covered with glass, and over this with mats. Underneath are the propagation boxes, in which the young cinchona plants are raised both from seeds and from cuttings.

Since the cinchonas bear flower and fruit throughout the year—more abundantly from October to December—seeds are always obtainable. The quantity of seed yielded by a tree is enormous. A single kilogramme of Ledgeriana seed contains about 3,500,000, of Succirubra about 9,000,000 seeds. If the fruiting branches are shaken, a cloth being spread out under them, half a pound of seeds may easily be collected during one morning, as the winged seeds readily fall from the capsule. They will keep their vitality for a year or more. Nevertheless, the planters do not gather seeds until they need them. They are then planted (4 or 5 in each square centimetre) in a superficial layer of loam placed on sand in flower pots, and the latter placed in the propagation house, where the seeds sprout in ten to fifteen days, assisted by a high degree of atmospheric moisture and a temperature of 18° to 25° C. This method of raising plants, however, is now restricted to the valuable Ledgeriana species. The others are usually sown directly in the open field—in the nursery—the places being covered with a sort of roof built of sticks and covered with mats, or (as is the case particularly at Lembang) dried stems of a species of Pteris, whose leaves do not fall off on drying, being placed between the seeds, thus affording sufficient shade to the young plants. A fence protects the Pteris fronds from being blown away. Such a field, apparently covered with dry twigs, presents a curious aspect to the uninitiated

* Indische Heil- und Nutzpflanzen und deren Cultur. [Text with 128 plates after photographic views and drawings.] By Dr. Alexander Tschirch, Professor of Pharmacognosy and Director of the Pharmaceutical Institute of the University of Berne. 8vo. Berlin: R. Gaertner's Verlag.
This work forms an indispensable supplement to every treatise on materia medica, the pharmacographia, and similar works.

who does not know what he has before him. Of 150 seeds thus planted about 50 are lost, but this loss is insignificant in view of the abundance of seed.

After the plantlets have reached a height of about 5 Cm. in the propagation houses, they are transplanted into the nursery, and proper shade afforded, without, however, fully excluding the light, care being also taken that a proper amount of rain can reach them. In these nurseries the plants remain until they have grown to a height of 20 to 30 Cm., that is, about one year. Then they are transplanted to their final location ("vollen grond," or "full ground").

In finally placing the plants, it is now usual to set them at intervals of 4 feet. This permits them to grow more rapidly in height, makes them grow straighter, affords mutual shade, and impedes the growth of weeds. In a Succirubra plantation the large leaves of the trees afford such a deep shade that but few weeds have a chance to vegetate.

During March and April, before the advent of the dry season, the plantation is carefully gone over, and every dead plant replaced by a fresh one.

In former times it was held that a cinchona tree could not exist without shade. Hence some weeds were always allowed to remain in the young plantations. This has been found unnecessary and is no longer practised.

If the plantation is much exposed to the wind, which is avoided as much as possible, the trees must be tied to sticks.

An interesting sight is a Succirubra plantation with plants of 3 years of age. Upon the little stems, 3 or 4 feet high, undulates a dense cover of light-colored, very large and wrinkled leaves, a special characteristic of the red cinchona. This is of great importance, since all cinchonas are very prone to form hybrids, and the appearance of such among plants of unblemished descent is highly undesirable, though frequent enough. The eye of the planter, however, is so practised by long experience that he recognizes the hybrids almost instantly through the shape and color of the leaves, or the shape, color, and odor of the flowers.

It is customary at present to devote one and the same plantation only to *one* species of cinchona. Thus, the Succirubra is now prevalent in Lembang, the Ledgeriana in Nagrak and in the Malabar plantations of India.

The gathering of bark is carried on as follows: The trees having been felled and taken out of the ground, the laborers (mostly women) cut or saw through the bark of the stem horizontally in distances of ½ or ¼ M., and afterwards longitudinally, thus producing rectangular pieces of ¼, ½, or ½ the circumference of the stem, according to its size. The tool used for this purpose is shown in Fig. 4. These pieces are then carefully separated from the wood by a thin, blunt, and rounded-off knife made of copper or brass (Fig. 4), iron tools being as much as possible avoided on account of the tannin of the bark. The interior of the bark is at first pure white, but turns, on exposure to the air and light during only fifteen seconds —as timed by Prof. Tschirch—to a handsome reddish-brown, caused by the transition of the cinchotannic acid to cinchona red. The pieces also soon commence to curl up. The stripping is mostly carried on in the rainy season, as the bark then separates more easily.

The branches and roots are treated in an entirely different manner. Here the bark is separated or scraped in irregular pieces from the wood. A few pisang leaves or a round platter plaited of bamboo (so-called *tanipir*) are placed under the branch, etc., and the bark scraped off.

According to the shape or nature of the collected bark, there are distinguished:

1. Long quills, from the straight stem, at least 25 Cm. long.

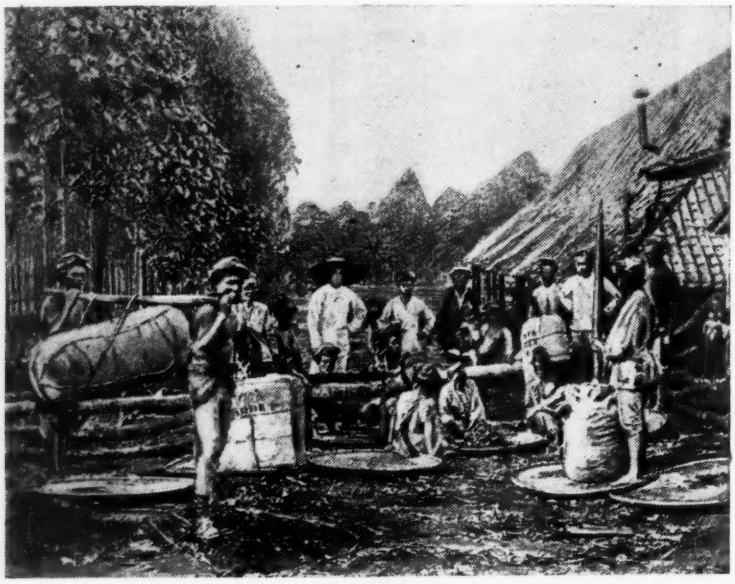


FIG. 2.—Stripping, picking, and stamping the bark; Finished bales and cases.

2. Short quills, less than 25 Cm. long.
3. Chips, all irregular or broken pieces.
4. Renewed bark, collected from trees partly stripped when growing, and then "mossed" so that new bark grows below the covering.

The drying houses are airy sheds covered with atap, and containing numerous bamboo tanipirs resting on wooden frames and covered with pieces of bark. Or else there extend from the sheds three tiers of timber frames, on each of which run, on parallel beams, large, square, low boxes provided with wheels or rollers. As soon as the sun has come out (and this must be carefully watched, since most of the peeling is done during the rainy season), the boxes filled with bark are rolled from underneath the shed. Whenever rain threatens they are rolled back again. The lowest tier reaches farthest outward, and the highest only far enough to expose all the boxes to the sun.

Besides these drying sheds there is a more primitive drying arrangement, viz., large bamboo platters supported on posts tied together in form of tables. Of course, when it threatens to rain, these tanipirs must be brought under cover. If the weather were as rapidly changeable in the tropics as it is with us, this sort of arrangement for drying would not answer. But it may generally be relied upon that no rain will fall in these

tropical localities before 1 P.M., the usual downpour taking place some time between 1 and 2 o'clock.

But all these crude methods of drying are gradually being displaced by artificial heat, which heretofore was supposed to be injurious to the bark. Various appliances are at present being experimented with. Van Leersum had just completed a series of investigations (when Prof. Tschirch arrived) which proved that cinchona bark could be dried without injury at 100° C., but that loss of quinine commenced at a temperature of 110° C.

When the bark is dry, it is sorted by women. Next, of each larger lot a sample is analyzed and the bark packed.

In the case of long and short quills (from 1 to ¼ M.—the so-called stembast [stem bark] of first and second quality —or "druggists' bark"), cases of 0.7 M. (27½ inches) in length and 0.42 M. (16½ inches) in height are used, or else sacks of jute, though the bark, of course, suffers much damage in the latter.

The smaller pieces, shavings, and all the débris, which find their way exclusively into quinine factories, are put into sacks, which are subjected to a stamping process so as to reduce the bulk of the contents, and the sack then

The alkaloid percentage of the Javanese cinchona bark varies considerably. On an average the following figures may be accepted:

Red Bark:	Stem	2.3 to 2.9 per cent.
	Root	2.6 to 2.95 "
	Renewed	3.4 to 3.5 "
Ledgeriana:	Stem	3.0 to 6.5 "
	Root	5.0 to 7.5 "
	Renewed	4.0 to 8.0 "

the percentage meaning "sulphate of quinine."

A curious observation has been made by Van Leersum in Java. He found that while the whole bark preserves its percentage of alkaloids practically unchanged on keeping, the *powdered* bark gradually deteriorates, losing 0.5 per cent of quinine during one year.

Great attention has been paid in recent years to *grafting*. This is especially practised with the slow-growing Ledgeriana, which is grafted on the rapidly growing and more hardy Succirubra. Yet the result is, after all, not very favorable, since the cinchonidine of the Succirubra

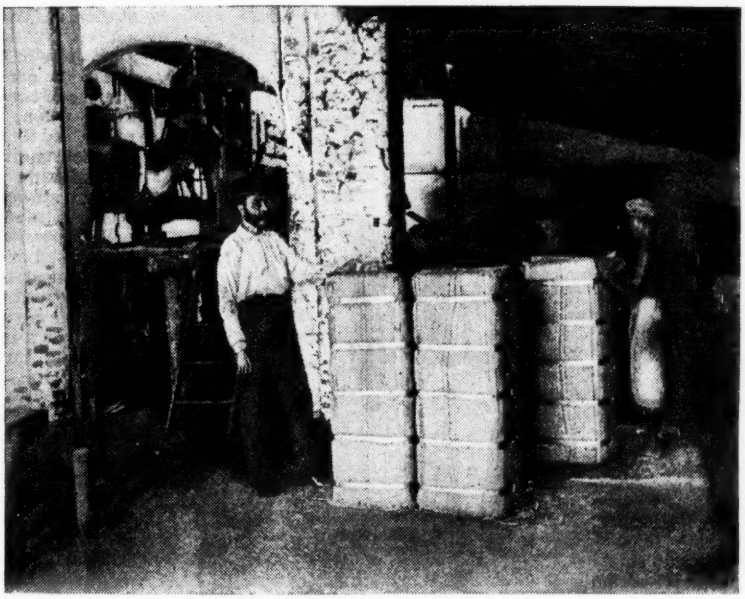


FIG. 3.—Bales of bark prepared by hydraulic pressure (Freudenborg's Mill, Colombo, Ceylon).

tied with ropes or strips of rotang. Such a sack usually holds 60 to 70 kilos. Each sack or case is carefully marked after certain regulations. For instance thus: On top is the word "Java"; next comes the year of harvest (1889); next the name of the species: "C. C. S." (= Cinchona Calisaya Schuhkraft); then the commercial grade): "gebr. Pijpen" (= "gebroken Pijpen" = broken quills); and finally the number of the bale and the mark of the plantation, for instance: P. L. (= Plantation Lembang). Each shipment is accompanied by a certificate of analysis signed by the assistant director.

The chemical laboratory is situated in a wing of the residence of the superintendent. Van Leersum uses De Vrij's process, and determines in each sample quinine, cinchonidine, quinidine, and the amorphous alkaloid inclusive of cinchonine. For purposes of trade there is also usually added the percentage of sulphate of quinine, because this is the factor determining the value of the bark.

In Bandong the value of the bark is stated by half-kilo per cents, which form the unit. If it is, for instance, stated that the half-kilo per cent costs 10 cents, this means that a half-kilo of a bark containing 1 per cent [of quinine reckoned as sulphate] costs 10 cents; hence a half-kilo of a 5-per-cent bark 50 cents. At the time of Prof. Tschirch's visit a half-kilo of a 5-per-cent bark cost 40 cents; hence the unit was 8 cents (1 cent=0.14 cent U. S.).

makes its appearance in the grafted Ledgeriana (which, by itself, is usually free from it) with the loss of a portion of its quinine. Thus, for instance, a Ledgeriana raised from American seed contained 9.79 per cent quinine (as sulphate). When grafted on a Succirubra, the resulting bark was found to contain 7.32 per cent quinine and 2.77 per cent cinchonidine.

Another important fact observed by Van Leersum is this, that, on the other hand, quinine can pass over into the Succirubra on which the Ledgeriana is grafted.

Examination of Vinegar.

W. J. SYKES thinks that considerable information may be gathered from an examination of the nitrogenous constituents of a vinegar as to whether it is genuine or not; but the fixing of limits must naturally be reserved until a long series of experiments have been performed in this particular direction.

Albumoses may be estimated by precipitation with a saturated solution of ammonium sulphate. Peptone may be precipitated in the filtrate by the cautious addition of a solution containing 4 Gm. of tannin in 190 Cc. of proof spirit mixed with 8 Cc. of dilute acetic acid. Pure malt vinegar should also give a turbidity with phospho-tungstic acid or potassium bismuth iodide or potassium mercuric iodide.—*The Analyst* and *Journ. Chem. Soc.*

[ORIGINAL COMMUNICATION.]

THE BEST DISINFECTANTS.

BY THOMAS J. KEENAN.

THE question, "What is the best disinfectant?" is one which meets our eyes with more than ordinary frequency in turning over the yearly volumes of almost any journal of pharmacy; and generally the answer given is as vague as the nature of the question propounded. For since no single drug is capable of destroying infection in all its protean aspects, or of reaching the germs of disease wherever located, it is safe to assume that no single drug or combination of drugs can lay claim to this superlative degree of excellence. The most that can be done is to describe those which are known to be active germ destroyers, and to refer to their manner of use. Among such, the most potent is *heat*, which may be applied in two forms—*moist* and *dry*.

I. *Moist heat* is *par excellence* the most reliable disinfectant known, and may be applied in many different ways for the purpose required. In the case of infected clothing, articles of wearing apparel, etc., the method in which specially constructed chambers containing the articles to be disinfected are filled with steam under high pressure, is considered superior to the action of steam without pressure or to simple immersion in water kept at the boiling point. The lethal temperature of moist heat for disease germs being about 230° F., if we are to rely on water kept at the boiling point it will be easily understood how necessary it is to prolong such boiling in order to destroy the spores of any infectious organism present.

II. *Dry heat* is less powerful than moist heat, many organisms having been known so to resist a heat of 230° F.; it is essential, therefore, in using this form of heat, to raise the temperature to at least 266° F., at which temperature no micro-organism can exist.

III. Next in point of general efficiency to these forms of heat may be ranked *sulphur dioxide*, or *sulphurous acid*, which is best generated by burning sulphur, or the bisulphide of carbon, in a moist atmosphere.

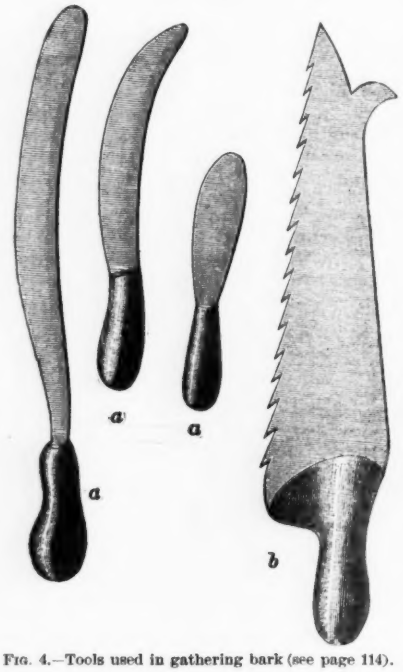


FIG. 4.—Tools used in gathering bark (see page 114).

Sulphur is largely employed by the Health Department of New York City; its rule being, after calculating the cubic contents by multiplying the height, length, and breadth of a given room together, to use this substance in the proportion of about 1 ounce of sulphur to every 20 cubic feet of air space. The apparatus employed is very simple, the sulphur being burned in a pan which is floated on water contained in a pail or in any convenient receptacle of suitable size, and for a period of at least two hours.

The sulphurous fumigation is most satisfactorily accomplished, however, by prolonging the time limit to at least eight hours, or otherwise by using the bisulphide of carbon for a similar length of time; but the use of this latter agent is not to be recommended to those who are unfamiliar with the handling of inflammable liquids, as, in addition to being a powerful poison, it is a liquid of a highly diffusive and inflammable character.

IV. *Chlorine.*—This agent is considered by many authorities to be a more certain disinfectant than sulphur dioxide; but the method of generating it being somewhat more complicated, it is not looked upon with favor nor used to the same extent. For the disinfection with this gas of rooms, closets, etc., all windows and doors should for the time be closed and every aperture stopped up. Then, the cubic space having been calculated, 1 ounce of a mixture composed of equal parts of sodium chloride and manganese dioxide, to which is subsequently added a fluidounce of a 50-per-cent solution of sulphuric acid in water, is taken for every 100 cubic feet of air space. On the addition of the sulphuric acid solution to this mixture chlorine gas is freely liberated, according to the following equation: $2NaCl + 2H_2SO_4 + MnO_2 = Na_2SO_4 + MnSO_4 + 2H_2O + 2Cl$. Any compound of this gas which contains it in loose combination is well adapted for ordinary household use as a deodorant and disinfectant.

The official calx chlorinata is a good example of this; when freshly prepared it contains about 33 per cent of available chlorine, which is rapidly parted with on simple exposure to the air. A solution of it in water, of the strength 4 ounces to the gallon, is recommended by the American Public Health Association in the disinfection of excreta.

Other preparations of this substance in frequent use are represented by Labarraque's solution and Javelle water; but the false sense of security engendered by the use of these and the chlorinated lime, when employed as deodorants, is to be carefully guarded against, their peculiar properties of neutralizing bad odors not always being a sufficient evidence of thorough disinfection.

V. *Phenol Compounds.*—Of these the most beneficial, and the one in commonest use, is the mixture of carbolic and cresylic acids known as *crude carbolic acid*. It is a reddish-brown liquid of a strong tarry odor and but slightly soluble in water, its relative insolubility varying with the amount of cresylic acid present. This mixture is considered the most desirable deodorant and disinfectant for use in public institutions, such as almshouses, asylums, prisons, etc., where economy is a factor in the management. The pure crystalline carbolic acid has a more extended application, being used, in the form of a saturated aqueous solution, both as an antiseptic and a disinfectant. As a disinfectant it is largely employed in spraying the walls, furniture, etc., of rooms, besides being employed in weaker solution as a body wash.

During the limited outbreak of smallpox which occurred in New York City a few years ago, chloride of zinc dissolved in water was successfully employed in the disinfection of bedclothing and wearing apparel. At the same time solutions of crude commercial sulphate of iron were mainly relied upon for the disinfection of privies, basements, etc.; the cheapness of this article and its powerful properties of arresting the growth of organisms, along with the freedom from dangers of poisoning attending its use, all rendering it a substance of great value, the last-mentioned property in particular making it of special value in case of its use in the presence of irresponsible persons.

The Health Department of the city of New York has contributed much towards a proper understanding of the uses of disinfectants, and the following summary of the results recently determined by this department, as showing the relative value of the below-named germicidal chemicals, may be relied upon as accurate and conclusive. The germ-destroying power of the several agents was tested on the ordinary bacteria of putrefaction. They ranked in effectiveness in the following order:

Corrosive sublimate, 64 grains to the gallon;

Carbolic acid, 5-per-cent solution;
Bromine, 1 pound to 200 gallons;
Permanganate of potash, 17½ ounces to 200 gallons;
Chloride of lime, 4 ounces to the gallon;
Sulphate of iron, 1½ pounds to the gallon;
Sulphate of zinc, 4 ounces to the gallon;
Common salt, 2 ounces to the gallon.

This paper would not be complete without some reference to the semi-official deodorant solutions of the National Formulary, preparations which I have seen most successfully employed in the correcting of foul odors arising from insufficient drainage and similar causes.

The solutions are two in number and are named respectively *Liquor Zinci et Ferri compositus* and *Liquor Zinci et Aluminii compositus.* The former is intended for common domestic use where the presence of iron is not objectionable, and the latter for use in the deodorizing and disinfecting of articles of clothing composed of woven fabric, etc.

NEW YORK, March 17th, 1892.

[ORIGINAL COMMUNICATION.]

THE STAINING OF LIQUIDS TO BE EXAMINED MICROSCOPICALLY.

BY CHARLES RICE.

EVERY one familiar with the use of the microscope recognizes the value of staining certain mounted objects by various colors, depending upon the nature of the subject, and either added to the object on the slide before it is permanently mounted, or previously introduced into it, by injection or maceration, before the section is made. Of course the purpose is either to bring into view structures or features which would otherwise have remained indistinct or invisible, or else to afford a positive aid to the recognition of certain structures and their distinction from others. Regarding this use of staining, nothing new can be offered here.

About a year ago the writer was, by an accident, led to examine the effect of adding some staining material to certain *liquids* (urine was the first one), and to observe what effect this would have upon the facility, or otherwise, of recognizing the suspended materials, the nature of which had to be determined by the microscope. It was soon found that this employment of staining material—which has not before been mentioned, so far as the writer is aware—is of remarkable assistance toward the recognition and differentiation of the various objects which come under the field of the objective. Not only are there numerous matters brought out clearly which often remain absolutely invisible, or at least unrecognizable, in absence of color, but, if the proper coloring substance is chosen, certain objects may be distinguished from others by the fact that one kind will assume the color while others will reject it.

At the present time the writer will only speak of the application of this method to the examination of *urine.* It would, of course, be unwise and only lead to confusion if the microscopic elements occurring in various specimens of urine, from persons in health or in disease, were to be shown to students and originally studied in a stained condition. So far as possible the characteristic features of normal as well as pathological microscopic elements in urine must be studied in their natural condition. But when their general characteristics are once known, and the same features have been studied under the effect of a suitable staining liquid, so that the observer recognizes them even under the altered appearance, he will probably in most cases subsequently either at once examine a *stained* specimen, or at least make two examinations, one with the original and the other with a stained specimen.

Many aniline colors have the property of dyeing vegetable or animal tissue without mordants. The addition of such an aniline color to urine will, therefore, have the effect that all organic *structural* material, such as epithelial and other cells, casts of all kinds, etc., will take up the color—as it were, condense it within themselves, since they appear more deeply dyed than the surrounding liquid—while all inorganic material (urates, uric acid, triple phosphates, calcium oxalate, etc., etc.), and even some non-structural organic material (such as pus), will remain untinted.

Among the colors best suited for this purpose may be mentioned the various violets, or blues soluble in water (Hofmann's violet 4B, or other marks; methyl blue, etc.). But the material which the writer first happened to use, and which possesses a very fine blue color of great tinctorial power, is a mixture of "Hofmann's Violet 4B" and "Brilliant Green," equal parts, dissolved in water—2 gr. of each in 1 fluidounce of water is a good proportion. A drop or two of this solution, added to a small specimen (about 2 Cc.) of the sedimentary part of some urine, is sufficient to tint the latter. But this may be varied by adding more, or diluting the color, according to circumstances.

On preparing two slides, one with a drop or two of the specimen of sedimentary matter untinted and the other with the same (or as near as possible the same) tinted, and comparing the two slides under a good objective, say a ⅓ or ⅛ inch, the great advantage of this staining method will at once be seen. Every organic material will be seen more or less tinted in the latter case. Forms which often remain doubtful when no color is used, become at once cleared up, consisting perhaps (for example) of uncolored amorphous urates mixed with colored organic detritus. Crystals embedded in organic material will become distinctly visible, as they do not absorb the color. Casts will stand out with startling prominence, and numerous objects, shreds and débris of epithelium, etc., become visible which could not be seen at all without the color.

The writer has shown this method recently to a number of friends, who thought it of sufficient value to make it more generally known.

It would be easy to go into more details, but, as the method is of use only to those who already have some familiarity with the microscope, the above outline will be amply sufficient for the present.

Synthetic Tartaric Acid.

M. GENORESSE has discovered a simple way of preparing tartaric acid synthetically. He starts with glyoxalic acid ($CHO.CO_2H$), the acid peculiar to gooseberries, grapes, and similar fruits, and acting upon it with nascent hydrogen liberated by the action of acetic acid upon zinc dust in contact with glyoxalic acid, the result is that 2 molecules of the latter acid are joined together by 2 hydrogen atoms, and that union gives tartaric acid, or rather the optically inactive form of it known as racemic acid, there being apparently equal molecules of the dextro and lævo varieties produced. The product was separated and examined. This new synthesis of tartaric acid would appear to throw some light upon the natural formation of tartaric acid; for, remembering the close relationship between glyoxalic and oxalic acids, which latter is one of the most readily formed in vegetable tissues, and the reducing agencies which appear to be connected with chlorophyll, we have all the means at hand to account for the natural synthesis of tartaric acid.—*Paris Correspondent of Chem. and Drugg.*

Furniture Oil.—In a formula for a preparation of this kind printed by us in our January number of 1891, page 13, one of the ingredients mentioned is butter of antimony. One of our correspondents asks us to inform him whether this is the preparation usually so called.

We have to say that there is only *one* kind of "butter of antimony," and this is chemically "chloride of antimony" (Liquor antimonii chloridi, Brit. Pharm.). We doubt, however, whether the addition of this substance to the other ingredients mentioned in the formula is of any benefit, since it will be decomposed and precipitated by the vinegar and spirit. It will therefore be preferable to omit it.

Preparation of Pure Cerium Salts.

THE separation of the elements of the cerium group (cerium, lanthanum, didymium) is a difficult task, generally only possible by sacrificing a good deal of the material to get one or the other element alone by itself. And it is well known that the medicinal cerium salts (cerium oxalate) are always contaminated with some of the other bases, though it is not positively known whether they interfere with, or have a share in, its therapeutic action. While it does not appear necessary to secure an absolute purity of the cerium salt, yet if a feasible process can be devised for attaining this end it should be attempted.

P. Schottländer has recently published a method which accomplishes the preparation of cerium salts entirely free from the other bases—not, indeed, with a view of being used by manufacturers of pharmaceutical chemicals, but for purely scientific purposes. It is somewhat circumstantial, and will probably bear curtailing for pharmaceutical use

The principle of the separation depends upon the fact, first ascertained by Auer von Welsbach, that the ammonio-ceric nitrate crystallizes with great facility, while the other rare earths of the same group (with the exception of thorium) do not form salts of the corresponding degree of oxidation. Hence the object is to produce, in the simplest manner possible, a solution of the nitrates of the earths containing all or as much of the cerium as possible.

The oxalates of all these elements, when dried at 100°C., easily dissolve by digestion in an excess of nitric acid, specific gravity 1.40, nitric oxide being given off and nitrates being formed; but in this case cerium forms only a cerous salt.

If there were a suitable oxidizing agent available [a foot note to the paper states that hydrogen dioxide or lead peroxide might perhaps answer for this purpose], the object to be attained would be easily accomplished. As it is, the oxalates must be converted into the higher oxides by igniting them strongly with access of air.

Pure cerium oxalate, like all other pure cerium salts with organic acid, is easily converted, as is well known, into the stable cerium dioxide or ceric oxide by ignition with exposure to air. Ceric oxide thus produced is, however, entirely insoluble in nitric acid, either dilute or concentrated. But if lanthanum or didymium is present with the cerium, the oxide is more or less soluble in nitric acid, proportionate to the amount of the other elements; but in this case the final solution contains not only ceric but also cerous oxide. When the mixture of oxide consists about one half of the cerium oxides, the whole may often be brought rapidly into solution by pouring upon it 4 parts of nitric acid containing 50 per cent of absolute acid. This causes a violent reaction, a boiling up of the liquid, and the production, in a few seconds, of a dark reddish-yellow liquid.

A mixture of oxides such as is obtained by starting from the crude mineral (f. i. cerite) is usually too rich in cerium to dissolve in the manner just described. It is therefore necessary to separate most of the cerium from it by another method. [And this method is also preferably applied to the oxide obtained from pharmaceutical cerium oxalate.]

Triturate the oxide in a mortar with 1½ times its weight of concentrated sulphuric acid, transfer the mixture to a platinum capsule, and heat it gently, under stirring, until it has become uniformly yellow and converted into sulphate. Allow to cool, dissolve it in the least possible amount of water, without heat, allow to deposit, and decant the clear yellow solution from the sediment. Now pour the solution into a large excess of solution of soda, previously heated in a porcelain capsule, boil the liquid for some time, wash the precipitate—consisting mostly of ceric hydroxide—several times with boiling water (by decantation), then transfer it to a large cylindrical vessel, and continue washing by decantation with cold water until the latter shows no longer any trace of sulphuric acid. Now collect the precipitate on a filter and dry it at 100° C.

In this condition it is easily soluble in nitric acid of specific gravity 1.40.

If foreign impurities are present (such as lead from the sulphuric acid, silica from the soda, etc.) it is advisable to secure their removal before going further. For this purpose the solution of the oxide or mixture of oxides in nitric acid is set aside for twelve hours, so that the nitrates of lead, copper, etc., which are only sparingly soluble in strong nitric acid, may become deposited. The clear liquid is then poured off, mixed with the requisite amount of ammonium nitrate (¼ of the weight of ceric oxide present), and, if silica was found present as impurity, evaporated to dryness. The residue is then dissolved in dilute nitric acid, and the separated silica eliminated by filtration through asbestos (*not* paper).

If tolerably pure cerium oxalate has originally been used, and no notable quantity of silica is present, it will only be necessary to dry the precipitated oxide (obtained as above described) at 100° C., after which it is dissolved in 265 parts of nitric acid of specific gravity 1.40, allow it to become clear by subsidence, mix with a nearly boiling solution of 39 parts of ammonium nitrate in 113 parts of water, and then evaporate the whole on the water bath until crystals begin to form on the surface of the almost black liquid. After twelve hours the largest part of the ceric salt which had been in solution will have separated in small, shining crystals having the composition $Ce(NO_3)_4.2NH_4.NO_3$. By careful further concentration a little more of these crystals may be obtained. They are in form of rather soft crystalline knobs or bunches. Further concentration causes the crystallization of the double nitrates of other elements of the group, which form large, light yellow crystals easily distinguishable from the cerium salt.

The cerium double salt is drained of mother liquid by a current of air (an aspirator) and then dried upon a porous tile over caustic lime and soda. To obtain it entirely pure it must be recrystallized from a nitric acid containing about 40 per cent of the absolute acid. About 3 or 4 recrystallizations are required to remove the last traces of lanthanum.—After *Berichte*, 1892, 378.

New Facts about Fluorine.

THE electrolytic separation of fluorine from hydrofluoric acid has hitherto been impossible owing to the fact that the acid just mentioned does not conduct the electric current. H. Moisson, however, has found that it becomes a good conductor if it holds fluoride of potassium in solution. In this case hydrogen is given up at the positive and fluoride at the negative pole.

The operation is best carried on in a U-shaped platinum tube capable of holding about 100 Cc. of hydrofluoric acid. The branches of the tube are closed with stoppers made of fluorspar, through which pass the platinum rods serving as electrodes. The latter terminate in plates, so as to withstand for a longer time the action of the fluorine. The two arms of the U-tube have lateral outlets closed by brass screws.

During the electrolysis the U-tube must be cooled by being placed in a freezing mixture lowering the temperature to —23° C.

In order to obtain perfectly pure fluorine, the gas is allowed to pass first through a small platinum worm cooled to —50° C., and afterwards through a horizontal platinum tube filled with pieces of fluoride of sodium, so as to deprive the gas of any traces of undecomposed hydrofluoric acid.

Properties of Fluorine.—Fluorine possesses an odor resembling that of hypochlorous acid, but it is somewhat masked through the odor of ozone, which is formed as soon as fluorine comes in contact with aqueous vapor. The inhalation of fluorine is *very dangerous*, as it most violently affects the respiratory organs.

Sulphur, selenium, and tellurium ignite when coming in contact with fluorine even at ordinary temperature. With sulphur it forms gaseous, with the two other elements liquid compounds. It also combines with bromine and iodine under appearance of flame, but it does not seem to unite with oxygen or nitrogen. With phosphorus it forms a pentafluoride, and with hydrogen it combines energetically, the union being visible even in the dark.

The action of fluorine upon the metals is more energetic than upon the metalloids. Magnesium, aluminum, nickel, silver, when slightly warmed, burn in it

vividly. Gold and platinum, however, are attacked by it only at a red heat, and then produce double salts.

Water is decomposed by fluorine, even at the ordinary temperature, hydrofluoric acid and ozone being produced. If but little water and much fluorine are present, the ozone becomes visible with a fine blue color.

Hydrogen sulphide, sulphuric acid, hydrochloric, hydrobromic, and hydriodic acids are decomposed by fluorine with appearance of flame. Carbon monoxide and dioxide are not affected by it, but it attacks carbon disulphide and hydrocyanic acid, which also decompose with flame. The same effect is produced when fluorine acts on metallic or metalloid chlorides, bromides, iodides, or cyanides.

Organic compounds, particularly those containing much hydrogen, are attacked by fluorine with such violence that the temperature rises to a white heat, and the product of the reaction is usually only hydrofluoric acid and fluorides of carbon.

Alcohol and ether ignite when coming in contact with fluorine; the organic acids, particularly those of complex structure, are less easily affected.

Ammonia and most alkaloids are rapidly destroyed by fluorine and converted into volatile decomposition products. According to its chemical and physical properties, fluorine occupies the first rank among the halogens. Of all known elements it possesses the most energetic action.

A CONVENIENT ARRANGEMENT OF THE APPARATUS FOR DETERMINING FREE AND ALBUMINOID AMMONIA.

THE following paper was recently presented by Mr. G. Embrey to the Society of Public Analysts, London:

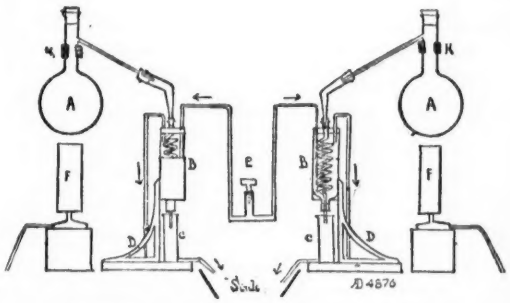
In the beginning of 1891 the citizens of Gloucester received the unwelcome news that the ordinary water supply was exhausted, and it became necessary at very short notice to find some new one. The river Severn at Gloucester is affected by the tide for about ten or twelve days during the month, and, as some seven or eight towns furnish it with a plentiful supply of sewage, there seemed only two sources: first, the Gloucester and Berkeley Ship Canal, and, second, numerous unused wells. Before sanctioning the use of these latter, it was thought by the authorities desirable to have an analysis made of each. Finding the ordinary clumsy arrangement of apparatus unsuitable, and having to make some twelve or more analyses each day, I set to work, with the help of a mechanically inclined assistant, to devise an arrangement which I believe superior to that in common use. The ordinary clumsy retort and condenser takes up too much room, and only one operation can be conveniently managed at one time. What I required was an arrangement so that two analyses could be kept going by one assistant.

My laboratory tables are 8 feet long and 2 feet 3 inches wide, with a small sink with water tap in the middle. On each side of this sink was fitted a distilling flask with spiral condenser, the source of heat being an Argand burner with iron chimney 8 inches high and 2 inches wide. As I had no room for retort stands, I contrived a simple clip, screwed on the shelf at back of bench; this keeps the table free for work. I find the burner can be turned up so that the flame reaches nearly to the top of the chimney and there is no fear of cracking the flask. The water boiling in a few minutes, the condensation is far better than with the ordinary arrangement of a straight Liebig condenser.

I find that, by starting one analysis a little before the other, one assistant can perform two determinations in a little over an hour, so that myself and two assistants, working eight hours, could make 48 determinations of free and albuminoid ammonia in one day. Though this speed was never reached, we came very near it. It will be noticed that a small, convenient adapter connects the flask with the condenser. The corks are covered with tinfoil, this being kept in place by a strong india-rubber band. I would call attention to a convenient method of holding the spiral condenser: A small tin cup fastened to an iron bracket, this latter screwed to a wooden base with four screws at the corners, under side; this keeps it from moving about.—After *The Analyst*. 4876]

The Poisonous Constituent of Oleoresin of Male Fern.

E. POULSON has made experiments which show that the poisonous properties of fern extract are due to an amorphous substance, which is the *filicic acid*. The acid is readily converted into its lactone by simply boiling its ethereal solution. The lactone is named *filicin* by the author. The filicic acid melts at 184.5°; filicin melts at 125°. The pure acid may be obtained from filicin by dissolving the latter in cold dilute soda, and filtering the solution into dilute hydrochloric acid. The white precipitate is then dried over sulphuric acid. Determinations of the molecular weights of the two compounds by Raoult's method gave for filicin 642 and 654, which, in connection with the analyses, indicates the formula $C_{36}H_{40}O_{12}$. The author considers filicic acid to be suitable for therapeutical purposes; it is readily soluble in the alimentary canal, but difficultly reduced, and either kills parasitic organisms or expels them, without damaging the canal. It appears to be more readily absorbed if taken with oil than if taken alone.—*Chem. Centralbl.* and *J. Chem. Soc.*



A, A, Distilling flasks. B, B, Spiral condensers. C, C, Nessler glasses. D, D, Brackets supporting condensers. E, Water tap. F, F, Argand burners. K, K, Clips fastened to shelf.

Glycerin Suppositories with Boric Acid.

THE use of boric acid as a laxative, when introduced into the rectum, having recently been advocated, Mr. Peter Boa thought of employing the Glycerinum Boracis of the British Pharmacopœia. For the purpose of comparison he made two sets of 15-gr. suppositories, one with glycerin alone, and the other with glycerin (or, as we say, glycerite) of borax. They were tried practically, and the reports (according to the *Chem. and Drugg.*) were distinctly in favor of those containing boric acid. The simple glycerin suppositories either failed to act at all or acted only very slightly, while those containing boric acid acted in some cases as efficiently as large glycerin suppositories, requiring, however, a longer time.

Pure Boron.

M. HENRI MOISSAN submitted to the Academy of Sciences last week an important essay on the preparation of pure boron. Magnesia mixed with an excess of boric acid and heated gives a mixture of boron, borate of magnesium, and boride of magnesium. By successive washings in acids the borate and the greater part of the boride are eliminated. By the fusion of the remaining boric acid the residue of the boride is oxidized, and, after washing, pure boron is produced. In another paper M. Moissan showed that when boric acid is treated with sodium or potassium great heat is given off, and, owing to this heightening of temperature, the greater part of the boron unites with the excess of alkaline metal. When the compound is subsequently treated with water and hydrochloric acid, a mixture is obtained (after desiccation) composed of boron, boride of sodium, boride of iron, hydride of boron, and hydrated boric acid. This mixture, M. Moissan pointed out, had hitherto been regarded as amorphous boron.—*Paris Corresp. of Chem. and Drugg.*

Thiophene and its Preparations.

THIOPHENE was discovered by Victor Meyer, in 1883, in coal tar, of which it is a constant constituent. It has the composition C_4H_4S. When pure, it is a colorless, mobile liquid, not miscible with water, and not poisonous. It boils at 84° C. and possesses a feeble, characteristic odor.

Therapeutically, two derivatives of it have so far been used, viz., sodium thiophenesulphonate and thiophene diiodide.

Sodium thiophenesulphonate ($C_4H_4S-NaSO_3$) appears in form of a white powder, contains over 30 per cent of sulphur, half of it combined directly with carbon, and is neither an irritant nor toxic, in which latter respect it has an advantage over beta-naphtol.

The salt has been used in form of 10-per-cent ointment, with lanolin or vaseline as basis, in prurigo with good results. It could also be used in complicated eczema, and, in the case of children, where naphtol is inapplicable.

Thiophene diiodide ($C_4H_2I_2S$), that is, thiophene in which 2 atoms of hydrogen have been replaced by 2 atoms of iodine, appears in white crystals, insoluble in water, but easily soluble in ether, chloroform, and warm alcohol. It melts at 40.5° C. It contains 75.5 per cent of iodine and 9.5 per cent of sulphur. In its pure state it has a strong, characteristic odor. A 10-per-cent gauze prepared with it has a faintly aromatic, agreeable odor. It should not be applied to the surface of the skin or wounds in greater strength than a 10-per-cent gauze, or corresponding dilution, since it is apt to cause a burning sensation. It is a powerful deodorizer of fetid exudations, far superior in this respect to iodoform. All trials made with it in surgical practice have given very satisfactory results.

Eczema, such as occasionally appears under iodoform treatment, was never observed. On the other hand, when eczema *was* caused by iodoform, treatment with thiophene diiodide caused it to disappear.

The thiophene-diiodide gauze is prepared by dissolving the iodide in equal parts of alcohol and ether, with addition of glycerin (10 parts in 1,000). The amount of iodide to be used, of course, depends upon the strength of the gauze to be produced. As the substance is colorless, it is advisable to tint the solution with a little eosine, which also enables the eye to see whether the solution has been equally distributed through the fabric. The prepared gauze must be preserved in well-closed vessels.—After *Therapeut. Monatsh.*

Antipyrine and Iso-antipyrine.

TOWARDS the end of last year Lederer announced the discovery of a body, first supposed to be identical with antipyrine, but which turned out to be a closely related isomer. Regarding its preparation and constitution some explanations were given, but they are as yet insufficient to show its relation to antipyrine clearly. Meanwhile it will be of interest to state in what respects the two bodies agree and wherein they differ, since it is very likely that the new compound will soon make its appearance on the market.

Agreement.—Both substances are in form of colorless crystals, melting at 113° C., easily soluble in water, alcohol, chloroform, hot benzol, or hot toluol; difficultly soluble in ether. They are both separated from their aqueous solutions by alkalies, in form of an oil, which is easily taken up by ether.

Both are powerful antipyretics.

Differences.—These appear best by classifying the salts or by their behavior toward reagents. We shall designate here the iso-antipyrine by "*I*" and antipyrine by "*A*."

1. Platinum Double Salt.

I: dark-yellow crystals, melting at 192° C.

A: yellowish-red crystals, melting at 192° C. after having been dried in the exsiccator.

2. Ferrocyanide.

I and *A:* both are thrown down from a faintly acid solution as a white, crystalline precipitate.

3. Salicylate.

I: difficultly soluble in water, easily in alcohol and ether. Difficult to obtain crystalline.

A: difficultly soluble in water, easily in alcohol and ether. Easy to obtain crystalline.

4. Picrate.

I: light-yellow needles, difficultly soluble in water, melting at about 168° C.

A: same, but melting at about 187° C.

5. With Ferric Chloride.

I and *A:* both are colored dark red.

6. With Sodium Nitrite.

I: emerald-green color in dilute solution. The nitrous compound obtainable, only under observance of great precautions, in "moss-green" crystalline needles. Deflagrates at 155.° Responds to Liebermann's reaction.

A: bluish-green color in dilute solutions. The nitrous compound separates in light-green crystals. Deflagrates at 195° C. Responds to Liebermann's reaction.

7. Bromine.

I and *A*: a solution of either substance in glacial acetic acid absorbs bromine, the color of the latter being destroyed. After standing some time the bromide separates in crystals.

The Decomposition of Water.

LORD RAYLEIGH recently, delivering a lecture at the Royal Institution on the decomposition of water, explained the latest methods of doing so by experiment. He said, in order to form water, it was necessary to take 2 volumes of oxygen to 1 of hydrogen. From that point of view the constitution of water was perfectly well known. But there was also the question of the relative weight of the two bodies, and how far the ratio of two to one really represented in the matter of volume the facts of the case. If the ratio in volumes were always the same the question of weight would be the same as that of the relative density of the two gases. In round numbers the weight of the oxygen was sixteen times that of hydrogen. According to Prout's law these ratios were always represented by some exact multiple. Thus, if hydrogen was taken as the unit, oxygen would be 16 and carbon 12. The question of atomic weights and relative densities was primarily experimental, but there was great danger of twisting data so as to meet the requirements of a preconceived idea. The investigation of chemists with respect to hydrogen and oxygen had varied, but not within great limits. In 1842 Dumas thought that the weight of oxygen was 15.96 times that of hydrogen, and Regnault in 1845 came to the same conclusion. It was, of course, not improbable that this slight defection from the exact number 16 arose from error of calculation. For a long time this question slumbered, and it was not for forty years that attention was again directed to it. He had himself, in 1888, arrived at the conclusion that the right proportion was 15.884 to 1; and other chemists, both in Europe and America, had published the results of their inquiry, which all gave figures between 15.7 and 15.9. The real difficulty arose from the extraordinary lightness of hydrogen, which was only $\frac{1}{14}$ as heavy as the air. The glass in which the weighing was done might be 200 Gm., while the hydrogen contained therein was only $\frac{1}{16}$ of a gramme. Our brass and platinum weights were accurate enough to record infinitesimal weights, but that was not the crux. The atmospheric condition might cause a greater disturbance than the weight of hydrogen. To meet this difficulty Regnault has devised a method of weighing two glass vessels, as similar to each other as possible, against each other, so that each would be affected in like manner by any sudden change of external conditions. The effect of moisture or changes of barometric or thermometric conditions might be very different as between platinum weights and glass, but with two glass vessels constructed precisely alike the difficulty was eliminated. Lord Rayleigh then explained and illustrated the decomposition of water and the desiccation of the hydrogen so as to make it absolutely free both from oxygen and moisture, which was effected by means of passing it through phosphoric anhydride.

Iodoform Preparations.

THE Supplement to the third edition of the Netherlands Pharmacopœia contains the following preparations of iodoform:

1. Deodorized Iodoform.

Iodoform	197 parts.
Carbolic Acid	1 part.
Oil of Peppermint	2 parts.

2. Iodoform Pencils, Hard.

Iodoform	20 parts.
Powdered Acacia	6 "
Powdered Sugar	5 "

Mix them with water to a pilular mass, and roll it out into pencils, which are to be dried at a gentle heat. Should they have a tendency to flatten during the drying, they must be re-rolled from time to time.

3. Iodoform Pencils, Flexible.

Iodoform	10 parts.
Powdered Acacia	1 part.
Powdered Tragacanth	1 "
Glycerin, Water	of each equal parts.

Make a mass, roll it out into pencils, and dry them at a gentle heat.

Or, take—

Gelatin	1 part.
Glycerin	2 parts.
Water	1 part.
Iodoform	4 parts.

Dissolve the gelatin in the glycerin and water on a water bath, replacing any water lost by evaporation. Then mix with it the iodoform, and pour the mass into moulds.

4. Iodoform Pencils, Fusible.

Iodoform	10 parts.
Butter of Cacao	9 "
Liquid Paraffin	1 part.

Mix the butter of cacao [in fine shavings] with the liquid paraffin to a uniform mass, without employing heat; then incorporate the iodoform, and roll the mass out to pencils.

Test for Chloroform, Iodoform, Chloral, etc.—A new test for the toxicological detection of chloroform, chloral, iodoform, etc., has been announced by Lambert (*L'Union Pharm.*, 1892, 17). It depends upon the fact that all phenols, in presence of caustic alkalies, yield color reactions with chloroform, bromoform, iodoform, etc., and their decomposition products. The colors are as follows:

With	
Phenol, Resorcin, Phloroglucin, Pyrogallol	Rose-red to red.
Orcin, Salicylic Acid	Reddish-violet.
Guajacol, Thymol	Violet.
Naphtol, Hydrochinon	Blue.

Face Powder.—One of our subscribers asks us to give him the formula of a face powder similar to two proprietary ones he mentions by name. This we are unable to do, as we have never examined them and cannot find that their composition has been published. But face powders are generally prepared by mixing talcum, in very fine powder, with a little starch, and tinting the mixture with a minute quantity of carmine or a trace of eosine. A cream or olive color may be imparted by adding a suitable quantity of tincture of saffron (*not* safflower) or a little annatto.

Quinine Pills.—A young physician in St. Louis had his faith in quinine seriously disturbed the other day, until he discovered that the 3-gr. sugar-coated pills he had been taking every half-hour were recently prepared compound cathartic pills.

For Dandruff.—The following pomade is recommended in the treatment of dandruff:

℞ Acidi Salicylici	ʒ ss.
Sodii Boratis	gr. xv.
Balsami Peruviani	♏ xxiv.
Olei Anisi	♏ v.
Olei Bergamot	♏ xv.
Vaselini	ʒ iij.

M. et ft. unguentum.

For Baldness.—One of the best combinations in the treatment of baldness consists of—

℞ Pilocarpinæ Hydrochloratis	gr. v.
Ottodе Rosæ	♏ viij.
Olei Rosmarini	fl. ʒ iv.
Linimenti Cantharidis	fl. ʒ iv.
Glycerini puri	fl. ʒ i.
Olei Amygdalæ Dulcis	fl. ʒ ij.
Spiritus Camphoræ	fl. ʒ iij.

M. S.—To be rubbed well into the scalp, night and morning.—WHITLA.

Styptic for Bleeding Gums.—Viau recommends the following styptic for bleeding gums after the extraction of teeth:

Chloroform	60 grs.
Tannic Acid	30 "
Menthol	30 "
Tincturæ Krameriæ	1 fl.oz.
Distilled Water	16 "

—After *Pharm. Centralh.*

Antiseptic Mouth Wash (Muller).—

℞ Acidi Thymici	0.25
Acidi Benzoici	3.
Tincturæ Eucalypti	15.
Spiritus Vini Rectificati	100.
Essentiæ Menthæ Piperitæ	0.75

M. S.—Drop enough into a glass of water to cause turbidity, and rinse the mouth morning and night.

Intestinal Antisepsis.—Dr. Dujardin-Beaumetz recommends the following formula as a satisfactory intestinal antiseptic:

Salol, Salicylate of Bismuth, Bicarbonate of Sodium	āā 150 gr.

To be divided into thirty powders in capsules. One capsule to be taken before breakfast and before dinner. —*Therapeutic Gazette.*

The Proper Purgatives in Intestinal Dyspepsia.—Of course only the milder laxatives, and such as disturb digestion the least, are to be thought of. Rhubarb, senna, aloes, sulphur, cascara, magnesia, are among the best. A favorite combination is equal parts of pulverized rhubarb and cardamom seeds; dose, a teaspoonful. Germain Sée prefers the old formula of sulphur, cream of tartar, and magnesia, of each equal parts; Dujardin-Beaumetz, the compound licorice powder. The aloin, strychnia, belladonna, and ipecac pill is an excellent one "The remedy," says Dr. G. B. Wood, "which we have found most effectual in the permanent cure of a disposition to the accumulation of flatus in the bowels, is an infusion made with half an ounce of calumba, half an ounce of ginger, a drachm of senna, and a pint of boiling water, and given in the dose of a wineglassful three times a day." —*Boston Medical and Surgical Journal.*

Prohibition of Cocaine and Sulphonal.—According to an announcement in the *Medico-Chirurgical Review* of Constantinople, an imperial irade has been issued forbidding the use of cocaine and sulphonal throughout the Turkish dominions.

How to Rid a House of Fleas.—A correspondent of the Washington *Star* says that he completely rid a badly infested house of fleas in two nights by a very simple procedure. He placed sheets of sticky fly paper on the floors of the several rooms, each sheet having a piece of fresh meat in the centre. The fleas jump for the meat and fasten themselves to the paper.

Action of Pilocarpine on the Excretion of Milk.—Pilocarpine is a drug which increases the amount of many secretions, such as sweat and saliva. By experiments on cows it was, however, found that it does not increase the amount of milk secreted. Analysis of the milk showed a slight increase in the amount of lactose. There is no glycosuria.—C. CORNEVIN in *Compt. Rend.* and *J. Chem. Soc.*

The Administration of Bromoform.—The usual prescription of bromoform with alcohol, syrup, and water is unsafe, owing to the insolubility of the drug in water, and the danger, therefore, that the last dose from the bottle will contain all or the greater part of the drug. In a note in the *Pharmaceutical Record* of February 11th, 1892, Mr. P. W. Bedford states that he has found glycerin to be an excellent solvent for bromoform, and he recommends the following as a serviceable formula, making a stable mixture:

℞ Bromoformi	♏xvi.
Alcoholis	fl. ʒ ij.
Glycerini	fl. ʒ xij.
Tincturæ Cardamomi Compositæ	fl. ʒ ij.

M.

If mixed in the above order it is a perfect solution, pleasant to the taste and the eye. Each fluidrachm contains 1 minim of the bromoform in perfect solution. The relative amount of bromoform in the formula must not be reduced in the prescription by syrup or water, though glycerin may be added in any quantity without precipitation. The particular caution is that in dispensing it there shall be no water in the mixture.

Dermatol and Iodoform.—Dr. Gläser holds (*Centralblatt für Chirurgie*, No. 40, 1891) that dermatol is not in any sense a substitute for iodoform, as it diminishes secretion while the latter excites it. He thinks dermatol may be profitably employed in the case of aseptic (operative) wounds, infected wounds being best dressed with iodoform.

Artesian Wells.—The drillers engaged in sinking a well for the Natatorium at Fort Worth, Texas, struck a flow of water which excels that of any artesian well known. The flow is 600 gallons per minute, and is as clear as crystal. The well is 1,052 feet deep, with a 10-inch bore at the top, tapering to 5 inches at the bottom. Fort Worth can boast of the largest flowing well in existence, the largest hitherto known being at Bourne, Lincolnshire, England, which discharges 500,000 gallons daily. At Aire, in the province of Artois, France, from which province is derived the name of artesian wells, there is a well from which the water has continued to flow for more than a century, and at the old Carthusian convent at Lillers there is another which dates back to the twelfth century.—*Sanitary News.*

An Underproduction of Quinine.—In an article on the quinine trade in the *Tijdschrift voor Nijverheid en Landbouw in Nederlandsch. Indie*, for October and November, 1891, Mr. Winning publishes a series of statistics upon the production and consumption of cinchona in different parts of the world, together with the estimates for the next three years. According to these figures there was more quinine consumed than was produced in 1891, and the writer thinks that the disproportion will be even greater in the immediate future. That more of the drug is consumed at the present time than is actually needed can hardly be questioned, and no doubt a very slight increase in price would speedily cut down its use and bring it within the limits of supply. The profit in cinchona cultivation has been very small for some years past, and the planters would doubtless welcome any increase in the price of bark, however small it might be. But quinine now has too many rivals, and no amount of underproduction could ever bring back the enormous prices it once commanded.

Phthiriasis Pubis.—Dr. T. R. Riddle writes, in the *Medical Brief*, that one thorough application of softened tallow will effectually kill pediculi pubis, together with the nits. A few hours after using, the sufferer must wash with warm soapsuds, and be clean.

Treatment of Burns.—The following treatment of burns is said to be very beneficial. Blisters are not opened, but are pierced with a silk thread soaked in sublimate solution and left in place. The whole burned area is then spread with a 10-per-cent iodoform-vaseline, and is covered with gummed paper or silk. The salve should be renewed daily. By this plan pain is relieved at once and cicatricial contraction is rare.—*Western Medical Reporter.*

Syrup of Bananas in Chronic Bronchitis.—For chronic bronchitis with scanty expectoration the use of banana juice has been recommended. The juice is prepared by cutting up the bananas in small pieces, and putting them, with plenty of sugar, in a closed glass jar. The latter is then placed in cold water, which is gradually made to boil. When the boiling point is reached the process is complete. Of the syrup so made a teaspoonful every hour is the proper dose.

The Druggists' Check System.—During the recent trial of the ex-medical student Harris for the murder of his young wife, the wisdom of the check system now employed by most of the reputable drug stores in this city was well shown. Had a single clerk received the prescription, prepared the capsules, and delivered them, it might readily have been claimed by the defence that a mistake had been made by the druggist. As it was, the druggist was able to go on the stand and testify that an assistant had also read the prescription and seen the amount of morphine which it called for properly weighed and dispensed. The importance of the simple precaution in this instance should serve as a warning to all druggists who have not adopted this wise plan whenever prescriptions calling for poisonous drugs are being filled.—*Medical Record.*

Salipyrin is a chemical compound of antipyrine and salicylic acid, 57.7 parts of the former to 42.3 of the latter. It occurs in the form of small colorless crystals, slightly soluble in water but freely so in alcohol, having a mildly astringent, subacid taste. It is supposed to combine therapeutically the properties of its two component parts.

Exalgine.—Dr. Désiré relates some very interesting cases observed at the Lariboisière Hospital in Paris. In every case the drug was given in 4 gr. dose at 2 and at 4 P.M. In some instances this was progressively increased up to 12 gr. or more. Thirty-two cases suffering from nearly every variety of pain were treated, and thirty were either greatly benefited or permanently cured. Vertigo was complained of in a few cases, but the dose was not decreased, and in one the vertigo disappeared while the dose was being increased. In some hundreds of cases of throat pains, dysphagia consecutive to tuberculosis, etc., great amelioration for long intervals was secured. It has also been found of great value in traumatic pains.—*Journal of Nervous and Mental Diseases*, January, 1892.

Hot Bathing in Japan.—In hygienic matters the Japanese have everywhere a habit which may have a lesson for us. In their nightly bath and morning wash the water is never cold, never warm, but always as hot as it can be borne. To foreigners this habit seems very surprising, but the most inveterate Englishman, if he stays in the country long enough, abandons his cold tub in its favor. The cold-taking which it is suspected must follow it is found not to occur if the water has been hot enough. This heat is maintained by a little furnace beneath the bath. In the bath the bather or bathers take a prolonged soaking, the washing proper being done on the bath-room floor; then follows a second and final soaking, drying with towel, and a lounge in bathing wrapper. This habit seems to promote softness and suppleness of the skin, and by persons inclined to rheumatism is soon found to be altogether preferable to the cold bath in every particular. The poorest of the Japanese hear of a cold bath with amazement, and would be sure the man who used it must be a barbarian. With respect to the superiority of the hot bath over the cold, I have come to find that in my own case certainly the Japanese are right.—DR. BENJAMIN HOWARD, in the *Lancet*, January 16th, 1892.

Gallacetophenon is the name of a new remedy which Neucki has recently introduced, and which is said to be very efficacious in the treatment of psoriasis and parasitic skin diseases. It is said to be quite as active as pyrogallol, and does not have the disadvantage of staining.

Hæmol and Hæmogallol.—Hæmol and hæmogallol, prepared according to the directions of Kobert, are obtained from blood. Hæmol is a brownish-black powder, and hæmogallol a reddish-brown. The introduction of these substances into therapeutics rests on the fact that the derivatives of the coloring matter of blood, obtained by the action of reducing agents, have a hæmatopoietic action both in health and disease. They are given in capsules in doses of from 0.1 to 0.5 Gm. during the day. Healthy persons are able to take as much as 1 to 5 Gm. of hæmogallol. Hæmol contains traces of zinc, left by design. The zinc is beneficial in slight lesions of the stomach which might result in ulcer. Given in the form of hæmol the zinc loses its caustic action and does not cause nausea.—*The Lancet.*

A New Vegetable Digestant.—A digestive ferment has been isolated from the milk juice of the Brazilian white fig tree (*Urostigma Dolarium*) by Peckolt. The milk juice of this tree is of a creamy consistence, has an almond-like flavor, and readily dissolves fibrin and coagulated egg albumen. In addition to this ferment the juice contains caoutchouc and a principle named dolarin, which, it is claimed, has tænicide properties.—*Meyer Brothers' Druggist.*

Plants with Poisonous Odors.—There are few flowers whose perfume is actually deadly. It is said, however, that the flowers of the *Kala mujah*, or death plant, found in the islands of Java and Sumatra, emit a perfume so powerful as to overcome, if inhaled for any length of time, a full-grown man, and killing all forms of insect life approaching it. This perfume resembles chloroform in its effect, producing insensibility. All insects and birds seem instinctively to avoid the plant. Linnæus mentions a case in which the odor of the rose bay proved fatal, and there is a plant known to the Persians as kerzeroh, the perfume of which they believe will kill a man if he inhales it after a hot south wind has passed over its blossoms. Many other plants, though not having deadly perfumes, nevertheless give forth odors which are decidedly hurtful. The *Pœderia fœtida* excites fever and headeaches in those inhaling it. One of the magnolias emits an odor which produces in many persons nausea and sickness, and the poison sumach and poison logwood are apt to lead to similarly unpleasant effects.—*Brooklyn Eagle.*

Somnal.—The indication most promptly and perfectly met by somnal is to induce sleep, and it may be confidently relied upon by the subscriber in all cases where the insomnia is not the result of pain or syphilitic disease. As the nervous element predominates, somnal is the more certain to fulfil the requirements; as, for example, insomnia due to functional over-excitement of the brain after mental strain or anxiety, sleeplessness of delirium tremens, and in maniacal and hysterical disturbances. Its sedative and somniferent action is strikingly efficacious in the insomnia occurring during convalescence from acute disease. Where an adynamic condition exists, it must, of course, be used with caution. In whooping-cough, spasmodic laryngitis, asthma, "nervous cough," and chorea it possesses decided sedative properties. A great element of safety is that the action of somnal, so far as I have observed, is never out of proportion to the amount ingested, nor does it act in a cumulative or other unexpected manner. The drug appears to possess little or no influence over insomnia due to acute inflammatory conditions.—DR. O. M. MYERS, *Med. Record*, March 12th, 1892.

Thiol is recommended as a substitute for ichthyol in treatment of skin diseases, because: It is clean and never irritates, while ichthyol is impure and often irritates; ichthyol smells disagreeably, thiol does not; ichthyol spots the linen, thiol does not; moreover, its cost is about half that of ichthyol.

American Druggist

AN ILLUSTRATED BI-WEEKLY JOURNAL.

VOL. XXI., No. 8. WHOLE No. 230.

WILLIAM WOOD & COMPANY,
PUBLISHERS,
43 TO 47 EAST TENTH STREET,
NEW YORK, N. Y.

SUBSCRIPTION PRICE per year, - - - - - - $1.50
SINGLE COPIES, - - - - - - - - - .10

Address all communications relating to the AMERICAN DRUGGIST *to* WILLIAM WOOD & Co., *43 to 47 East Tenth Street, New York City, to whose order all postal money orders and checks should be made payable.*

The AMERICAN DRUGGIST *is issued on the 1st and 15th of each month. Changes of advertisements should be received before the 5th and 20th. New advertisements can occasionally be inserted after the 10th and 25th.*

EDITORIAL.

SOLUBILITY OF BROMIDES.

ONE of our correspondents asks us to inform him what the result will be by adding 1 pound each of bromide of ammonium, bromide of potassium, and bromide of sodium to 4 pints of water—that is to say, he desires to know how much of each bromide the final solution will contain, assuming, of course, that the water does not dissolve the whole of each salt added.

In reply we have to state that if the above-mentioned amount of water were insufficient to dissolve the *whole* of the three salts, it would not be safe to assume that the amount of each salt dissolved is in direct ratio to its individual solubility in water, since it is quite possible that the presence of one salt might increase the solubility of the other. Hence, if, after adding the 3 pounds of bromides to the 4 pints of water, there were any of the bromides left undissolved, it would require an exact quantitative analysis either of the undissolved portion or of the solids in solution to determine in what proportion the three salts are present. But such an analysis is not necessary.

By actual experiment, adding 1 avoirdupois ounce each of the three bromides to 4 fluidounces (118.1 Cc.) of water at 15° C., we found that the water dissolved the salts completely, forming a practically saturated solution. The volume of the solution swelled to 146 Cc.

Our correspondent distinctly says "putting 1 pound each of the three bromides into a jar, and adding 4 pints of water." Hence we made our experiment in the same ratio: 1 avoirdupois ounce each to 4 fluidounces of water.

Our correspondent also asks us to give him the exact amount of each bromide to saturate 1 fluidounce of water. Here are the figures:

Solubility at 15° C.	In parts (by weight) of water.
Ammonium Bromide	1 in 1.5
Potassium Bromide	1 in 1.6
Sodium Bromide	1 in 1.2

Now, since 1 fluidounce of water weighs 455.7 gr., it follows that 1 fluidounce of water will dissolve:

Ammonium Bromide	303.8 gr.
Potassium Bromide	284.8 "
Sodium Bromide	379.8 "

SPECIMENS OF TEXT FROM THE U. S. PHARMACOPŒIA NOW IN PREPARATION.

We republish, in this connection, two specimens of text from a pamphlet recently issued by the Committee of Revision and Publication of the Pharmacopœia,* containing, so far as they have at present been worked out, the lists of reagents and volumetric solutions proposed to be employed in the determination and strength of official substances, together with a few specimens of the text of chemicals. The object of the publication is explained by the preface, but it appears that the phraseology there used has caused some misunderstanding. It is there said that "the pamphlet is at the same time designed to show the arrangement and general style of typographical execution proposed to be adopted in the next edition of the Pharmacopœia." This has been interpreted by some as if it were intended to print the text of this subject in the Pharmacopœia with precisely the same type, the same amount of spacing, the same size of page, etc., as is used in the pamphlet. This is a mistake. It was intended to show when Roman type was to be used, and when italics; where display type and what abbreviations were to be used; when square brackets or parentheses; how the text was to be arranged in paragraphs, etc., etc. When the Pharmacopœia is printed the type selected will be so clear, large, and sharp that no one will have reason to complain.

One of our correspondents suggests that the chapter on volumetric solutions be enlarged by an introduction giving an explanation of volumetric analysis in general and explaining its application. Such an innovation would introduce a didactic feature into the Pharmacopœia more striking and decided than any ever before attempted. We do not gainsay the usefulness of such a didactic chapter, but anticipate that further didactic features will be demanded in the future—such as a chapter on qualitative analysis, etc.—which will eventually completely alter the nature of the Pharmacopœia. That all this will yet come to pass, we have but little doubt. It seems to us, however, that the time has not yet come for the new departure.

The main object of the present publication is, of course, to submit the methods, calculations, and figures contained therein to the scrutiny of those who take an interest in the subject. It is gratifying to the committee to know that they have many active helpers in all sections of the country, who are ready and willing to sacrifice time for the purpose of assisting the committee in its labors. No doubt, with their aid, the desired correctness will be attained.

As the pamphlet was passed through the press under some difficulties not within the control of the subcommittee, some typographical errors have been overlooked, viz.:

Page 14, lines 4 and 13, read: *Phosphas.*

Page 18, last line, read: 0.016560 for 0.016605.

Page 26, line 17, read: Zinci Iodidum.

Page 27, line 2 from below, read: 0.56 for 0.50.

POTASSII BROMIDUM.

BROMIDE OF POTASSIUM.

KBr = 118.79.

Colorless, or white, cubical crystals or granules; odorless; of a pungent, saline taste; permanent in air. Soluble at 15° C. (59° F.) in about 1.6 parts of water, or in 200 parts of alcohol; at boiling temperature, in less than 1 part of water and in 16 parts of alcohol; also in 4 parts of glycerin.

On heating, the salt decrepitates; near 700° C. (1292° F.) it fuses without decomposing, and at a bright red heat volatilizes, communicating a violet color to the flame.

The aqueous solution (1 in 20) has a neutral or, at most, scarcely perceptible, alkaline reaction.

Addition of tartaric acid T. S. or of sodium bitartrate T. S. produces in it, after some time, a crystalline precipitate of potassium bitartrate.

Sodium cobaltic nitrite T. S. produces in it, at once, a copious yellow precipitate.

If to 10 Cc. of the aqueous solution of the salt a few drops of chloroform be added and then 1 Cc. of chlorine water, and the mixture agitated, the liberated bromine will dissolve in the chloroform, imparting to it a yellow or brownish-yellow color, without a violet tint.

If 1 Gm. of the salt be dissolved in 10 Cc. of a mixture of 100 Cc. of water and 0.2 Cc. of normal sulphuric acid V. S., no red tint should be imparted to the solution by the addition of a few drops of phenolphtalein T. S. (limit of *alkalinity*).

If a little of the salt be held into the flame on a well-cleaned platinum wire, the flame should be colored violet at once without the appearance of yellow (abs. of *sodium*).

If diluted sulphuric acid be dropped upon crushed crystals of the salt, they should not at once assume a yellow color (abs. of *bromate*).

If 10 Cc. of the aqueous solution (1 in 20) be mixed with a little starch T. S., the addition of a drop or two of chlorine water should not produce a blue color (abs. of *iodide*).

10 Cc. of the aqueous solution should not be rendered turbid by the addition of 0.5 Cc. of ammonia water and of 0.5 Cc. of ammonium sulphide T. S. (abs. of *iron, aluminum, etc.*); nor should 10 Cc., after being slightly acidulated with acetic acid, be rendered turbid by an equal volume of hydrogen sulphide T. S. (abs. of *arsenic, lead, copper, etc.*); nor by 0.5 Cc. of ammonium oxalate T. S. (abs. of *calcium*); nor by 0.5 Cc. of potassium sulphate T. S. (abs. of *barium*); nor by 0.5 Cc. of barium chloride T. S. (abs. of *sulphate*); nor be colored blue by 0.5 Cc. of potassium ferrocyanide T. S. (abs. of *iron*).

If 0.5 Gm. of the well-dried salt be dissolved in 10 Cc. of water, and 2

The following alterations and additions should also be made:

Page 28, the figures for Iodum should be changed to "0.312" Gm. taken, and "98.63" per cent of strength indicated.

Page 37, line 11, read: odorless for colorless.

Page 36, between lines 5 and 6 from below, insert the following paragraph:

"If 1 Cc. of the acid be slightly supersaturated with ammonia water, and 1 Cc. of ammonium sulphide T. S. be added, neither color nor turbidity should appear (abs. of *iron, aluminum*, etc.)."

* "Reagents and Volumetric Solutions proposed for the U. S. Pharmacopœia, together with some Specimens of the Text proposed." Published by the Committee of Revision, etc. (1890 to 1900). St. Louis, 1892. 8vo.

Cantharidinate of Potash, another remedy recently proposed for tuberculosis, is said by Drs. Fenwick and Welsford (*Br. Med. Jour.*, No. 1617, p. 1349), on a basis of 16 cases, to be—

1. Absolutely useless as regards beneficial effect in pulmonary tuberculosis.
2. More than $\frac{1}{120}$ gr. is apt to cause albuminuria, pain in the loins, strangury, and hæmaturia.
3. In two cases of laryngeal tuberculosis it effected no improvement.

Tannate of Quinine of Constant Composition.—J. E. de Vrij recommends the following method for preparing a tannate of quinine of a constant composition:

Triturate well together 1 part of pure quinine (alkaloid) and 4 parts of tannic acid, and then mix them with 10 parts of water. Heat the mixture, under constant stirring, to 60° C. on a water bath until the resulting tannate of quinine forms a plastic mass surrounded by a colorless liquid. Evaporate the whole to dryness on the water bath, reduce the tannate of quinine to powder, and dry it once more.

Thus prepared, the tannate of quinine contains 20 per cent of the alkaloid.—After *Nederl. Tidjschr. v. d. Pharm.*

drops of potassium chromate T. S. be added, it should not require more than 42.5 Cc. of decinormal silver nitrate V. S. to produce a permanent red color of silver chromate (abs. of *more than 2 per cent of chloride*).

FERRI CITRAS.

CITRATE OF IRON.

Solution of Citrate of Iron, *a convenient quantity.*

Evaporate the solution on a water bath, at a temperature not exceeding 60° C. (140° F.), to the consistence of syrup, and spread it on plates of glass, so that, when dry, the salt may be obtained in scales.

Citrate of iron should be preserved in well-stoppered bottles, in a dark place.

Thin, transparent, garnet-red scales, without odor, and having a slightly ferruginous taste. Slowly but completely soluble in cold water, and readily soluble in hot water, but insoluble in alcohol. When strongly heated, the salt chars, emits fumes having an odor resembling burning sugar, and finally leaves a residue of ferric oxide, which should not have an alkaline reaction to test paper (abs. of *citrates* or *tartrates of the fixed alkalies*).

The aqueous solution of the salt has an acid reaction, and is not precipitated, but rendered darker in color, by ammonia water.

With potassium ferrocyanide T. S. it affords a bluish-green color or precipitate, which is increased and rendered dark blue by the subsequent addition of hydrochloric acid (difference from *soluble citrate of iron*).

If heated with potassium hydrate T. S., it affords a brownish-red precipitate without evolving any vapor of ammonia.

If a 10 per cent solution of the salt be deprived of its iron by boiling with an excess of potassium hydrate T. S., and the filtrate slightly acidulated with acetic acid, a portion of the liquid, when allowed to stand for some time, should not afford a white crystalline precipitate (abs. of *tartrate*). If to another portion of the acidulated and cooled liquid a little calcium chloride T. S. be added, and it be again heated to boiling, it should gradually afford a white crystalline precipitate (identity as a *citrate*).

If 0.56 (0.5588) Gm. of the salt be dissolved, in a glass-stoppered bottle (having a capacity of about 100 Cc.), in 15 Cc. of water and 2 Cc. of hydrochloric acid, with the aid of a gentle heat, and, after the addition of 1 Gm. of potassium iodide, the mixture be allowed to stand for half an hour at a temperature of 40° C. (104° F.), and then allowed to cool, it should, after the addition of a few drops of starch T. S., require not less than 16 Cc. of decinormal sodium hyposulphite V. S. before the blue or greenish color of the liquid is discharged; each Cc. of the volumetric solution corresponding to 1 per cent of iron.

Jambul (*Eugenia Jambolana*).—Hildebrandt (*Berl. klin. Woch.*, i., p. 5) believes the remedy derived from these seeds to be serviceable in diabetes through diminution of the change of starch into glucose in the alimentary canal, and in the tissues by reducing the conversion of sugar into glycogen. Dr. Fox (*Med. Press*, No. 2749, p. 29) has found its action extremely uncertain, and that when diabetes is associated with disease of the pancreas it is aggravated rather than lessened.

Thilanine is the name given by Siebels to a product of lanolin with sulphur, and contains 3 per cent of the latter.

Guaiacol, recommended in place of creosote as a remedy in tuberculosis, is advised by Drs. Seifert and Hoelscher (*Berl. klin. Woch.*) to be employed in the form of *carbonate* [$CO(OC_2H_4OCH_3)_2$], the so-called "absolutely pure" guaiacol containing at best but 90 per cent. Half an hour after its injection it appears in the urine. Commencing with a dose of $\frac{1}{8}$ gr., a daily dosage of 90 gr. has been reached without disturbance of the digestive, circulatory, or nervous systems, but with improvement of appetite and nutrition, less cough, more mucus in the sputum, less fever and night sweat, better sleep and improvement in physical signs of the disease.

In a subsequent paper (*ibid.*, January 8th, 1892) these authors state that the guaiacol does not affect bacilli, but, by its ability to enter into combination in the blood with toxic albuminoids resulting from the development of bacilli, it prevents the harmful effects of the latter upon the system, and thus helps the patient. The local pulmonary process is not directly affected by the remedy.

Dr. Weill (*Jour. de Méd. de Paris*, xlix., p. 503) has made intrapulmonary injections of 2 per cent of guaiacol in vaseline oil.

Methacetin (*aceto-anisidin*) was employed by Prof. Masius (*Bull. de l'Acad. Roy de Méd. de Belg.*, v., p. 715) in 8 cases of typhoid, 15 of articular rheumatism, and several of tubercular hectic. In doses of $3\frac{1}{2}$ gr., repeated in an hour, it lowers the temperature several degrees, the maximum of effect being reached in two or three hours and continues about an hour. Abundant perspiration was the only secondary symptom. In rheumatism it is inferior to salicylate of sodium.

NEWS AND NOTES.

AMERICAN PHARMACEUTICAL ASSOCIATION.

Circular Letter Relating to the Seventh International Congress.

To the Pharmaceutical Societies and the Pharmacists of all Countries, Greeting:

The American Pharmaceutical Association had extended an invitation to the Third International Pharmaceutical Congress, held at St. Petersburg in 1874, to call the Fourth Congress in Philadelphia in 1876, during the Centennial International Exposition; but the selection of a city in the United States was deemed inadvisable at that time.

After it had been decided that the World's Columbian Exposition should be held in the city of Chicago in 1893, the American Pharmaceutical Association again invited the International Pharmaceutical Congress to meet in

this country. The Italian Committee on Organization having, by circular of May 15th, 1891, and for reasons stated therein, renounced the convocation of the Seventh International Pharmaceutical Congress at Milan, the Executive Committee of the Sixth Congress, at Brussels, by letter of November 26th, 1891, confirmed the invitation of the American Pharmaceutical Association, and in a communication of February 16th, 1892, the former Committee on Organization at Milan expressed the view that there was nothing, under the circumstances stated, to prevent the organization of the Seventh International Pharmaceutical Congress in 1893 in Chicago.

Now, in view of the above facts, the undersigned officers of the American Pharmaceutical Association take pleasure in extending a hearty invitation to the Pharmaceutical Societies of all countries to appoint delegates to the International Pharmaceutical Congress which is to assemble in the city of Chicago during the year 1893, and in which teachers to pharmaceutical institutions and pharmacists in general are likewise cordially invited to participate.

It is especially desired that the contents of this circular letter be brought to the notice of kindred societies, and that information be given to the undersigned secretary relating to suggestions of subjects of general importance, suitable for discussion and action by the Congress, as well as to the intention of pharmaceutical societies, of pharmacists, and of teachers of pharmacy in other countries of being present or represented at the Congress of 1893.

Further steps for promoting the objects and deciding upon the date of the Congress will be taken at the meeting of the American Pharmaceutical Association in July of the present year. Meanwhile the undersigned desire to assure all who may come as delegates, as members, or as visitors to the International Pharmaceutical Congress at Chicago in 1893, of the very cordial reception on behalf of the pharmacists of the United States of America.

ALEX. K. FINLAY,
Pharmacist in New Orleans;
President of the American Pharmaceutical Association.

JOHN M. MAISCH,
Professor of Materia Medica and Botany;
Permanent Secretary of the American Pharmaceutical Association.

Office of the Permanent Secretary,
143 North Tenth Street, Philadelphia,
March 30th, 1892.

THE Committee on Entertainment and the Committee on Transportation for the coming American Pharmaceutical Association meeting have just issued a circular containing the following information:

The fortieth annual meeting will be held at the Profile House, White Mountains, N. H., the first session opening on Thursday, July 14th, 1892, at 9 o'clock A.M.

It has been deemed advisable to make Boston, Mass., the gathering point for all, excepting those north or east of Boston, or on the proposed route, who may prefer to take the train at some of the stations where stops will be made. The Hotel Vendome, one of the best hotels in Boston, will receive members of the American Pharmaceutical Association delegates and friends at the uniform rate of four dollars per day.

It is earnestly hoped that as many as can possibly do so will arrive in Boston on Saturday, Sunday, or Monday, July 9th, 10th, 11th, and all should be there on the 12th without failure. A committee, with assistants, will be at the Hotel Vendome, under the immediate direction of Prof. E. L. Patch and Chas. C. Goodwin, Esq., whose business and pleasure it will be to render any possible assistance to each and every visitor in sight-seeing or visiting places of historical interest in the city, or as remote as Plymouth Rock; and that the druggists and proprietors of Boston, with the aid of a few of the other New England towns, will arrange for some expression of kindly feeling and welcome to all collectively, may be expected. We shall be very much disappointed if there are not 300 at the Hotel Vendome Monday morning, July 11th, or before.

On the morning of Wednesday, July 13th, at 8:30, from the Boston & Maine station, Haymarket Square, we shall begin our journey to the mountains of New Hampshire.

This will be a special trip, arranged to take in as much as possible, going and returning, so as not to cover the same ground twice, and will be as follows: Leaving Boston, as above, we pass by Charlestown and Bunker Hill Monument on our right; the gilded dome of the State House on Beacon Hill, and historical Cambridge, on our left; Somerville, Melrose, Malden, Reading, Wakefield, and many other suburban towns, until we reach the famous theological institutions of Andover, Phillips Academy, etc. A few miles distant we shall be in view of the Merrimac River, upon the bank of which is the city of Lawrence—ten miles below the city of Lowell—both typical manufacturing cities of New England. Following the banks of the river, and crossing it, we will enter the city of Haverhill, one of the many boot and shoe centres of this section of the country. Rapidly moving on, we enter the State of New Hampshire, going through Exeter, Dover, Rochester, the blue hills of Strafford, reaching Alton Bay at about 12 M. Here we will leave the cars, going on board the steamer *Mount Washington* for a three hours' sail "on the loveliest of highland seas," Lake Winnipeseogee, touching at Wolfeboro, Centre Harbor, and Weirs. Dinner or lunch will be served upon the boat.

Again entering the cars upon the west side of the lake, we shall push rapidly on through Meredith, Plymouth, and the Pemigewasset Valley, keeping the Franconia Peaks in view most of the way. At about 6 P.M. we touch a corner of the fashionable summer resort, the town of Bethlehem. Soon thereafter we shall reach the Profile House, our home for five or six days. Special rates have been secured of $3 per day.

On the morning of Tuesday, July 19th, we leave for the summit of Mount Washington by rail (6,293 feet). Dinner at the "Tip Top House," passing the night at Fabyan's and the Crawford.

On the morning of the 20th we ascend Mount Willard (2,570 feet) in carriages, and have one of the grandest views in the whole mountain region, dining at the famous and well-known Crawford House. Taking the train at 2:12, we leave the high altitude, descending through the wonderful Crawford Notch into the pretty and well-known village of North Conway, and on to Boston through Salem or Lawrence as desired.

Through the kindness and courtesy of the Boston & Maine Railroad we are authorized to say that tickets for this round trip, and good going only on July 13th, will be recognized and honored on the return trip until July 23d, inclusive. Price, twelve dollars and fifty-four cents ($12.54), not including meals or hotel accommodations, but including Mount Washington and Mount Willard trips.

Among the many lovely drives the following are suggested as very desirable, and special rates will be made to those desiring to take one or more of them. "To the Flume," including Pool, Basin, Flume House, Franconia Notch, and several minor points of interest. "Around the Heater" is a triangular drive of about 12 miles to Franconia, then up the valley and across to Profile Farm and greenhouses. "Sugar Hill" is a drive of about 16 miles. From it fine views of all ranges of the White Mountains can be seen; also the Green Mountains of Vermont and the nearer peaks in Canada. "Mount Agassiz Basin," a drive of about 20 miles to the Pemigewasset Valley in North Woodstock.

To those who do not care to take the drives there are many places of interest within easy walking distance, particularly the climbing of Mount Lafayette.

We confidently expect a very large meeting, and will try to make it pleasant for all. It is very important we should know at as early a date as possible just who are coming, and how many in each individual party, that we may arrange for rooms at the Profile House; and particularly is this important as regards the date of arrival in Boston, Mass., and if rooms are desired at the Hotel Vendome.

It will be impossible to arrange for any large exhibit, and, if any, it must be confined to rare and unusual specimens of special merit and novelty, occupying but small space.

N. B.—At your earliest convenience please reply to the following:

1. Will you be with us to start from Boston, July 13th, 1892, at 8:30 A.M. ?
2. How many tickets do you require ?
3. How many rooms do you require at the Profile House, N. H. ? As we expect a large number, arrange as far as possible for two in each room.
4. What day and date will you arrive in Boston, Mass. ?
5. How many in your party, and how many rooms at Hotel Vendome, Boston, Mass. ?

Should any prefer some other hotel in Boston, please report at Hotel Vendome for aid of committee.

Address the Local Secretary, H. M. WHITNEY, Lawrence, Mass.

Committee on Entertainment: H. M. Whitney, local secretary, Lawrence, Mass.; E. L. Patch and Chas. C. Goodwin, Boston, Mass.; E. A. Robinson and F. H. Butler, Lowell, Mass.; Geo. C. Frye, Portland, Me.; A. S. Witherell, Exeter, N. H.; A. E. Richardson, Burlington, Vt.

Committee on Transportation, to whom all inquiries regarding lines and rates should be addressed: Geo. J. Seabury, 21 Platt street, New York City, chairman; J. W. Rankin, Atlanta, Ga.; A. E. Ebert, Chicago, Ill.; C. M. Ford, Denver, Col.; M. W. Alexander, St. Louis, Mo.; E. A. Robinson, Lowell, Mass.; W. J. N. Gordon, Cincinnati, Ohio; A. K. Finlay, New Orleans, La.; Wm. Leaby, San Francisco, Cal.

Proposed programme: July 13th, Session of Council, 8:30 A.M. July 14th, First Session of Association, 9 A.M. (nominating committee); Second Session of Association, afternoon; evening, Promenade. July 15th, morning and afternoon sessions (commercial); evening, Prof. Churchill, of Andover, Mass. July 16th, morning, afternoon, and evening sessions (scientific papers). July 17th, rest, walks, etc. July 18th, morning, afternoon, and evening sessions (legislation and education).

The Committee on Entertainment would especially urge all members and delegates to concentrate in Boston, as the rates from New York City and points west to the White Mountains are cheaper by the way of Boston than can be obtained by any other route. It should also be borne in mind that the special trip arranged from Boston to the Profile House and return is very desirable, as it includes more of White Mountain scenery than can possibly be obtained in any other way.

The Committee on Entertainment of American Pharmaceutical Association visitors has issued the following self-explanatory circular:

The American Pharmaceutical Association meets at the Profile House, White Mountains, July 13th to 20th, 1892. The States of Maine, New Hampshire, and Vermont are expected to provide entertainment at the mountains, but it is suggested that Massachusetts give a right royal welcome and make the stay of our visiting friends as pleasant as possible.

To this end a committee has been appointed to arrange entertainment, among the features of which will be a harbor excursion, a carriage drive, and a reception at the Hotel Vendome.

Each contributor of $15 will be entitled to a full entertainment ticket for all three, and each contributor of $5 to a ticket for either one of the three. Applications for tickets accompanied by check may be forwarded to any member of the committee, or send to John G. Godding, corner Dartmouth and Newbury streets, Boston. The committee consists of: E. L. Patch, chairman, 91 Broad street; John G. Godding, treasurer, corner Dartmouth and Newbury streets; W. C. Durkee, secretary, corner Berkeley and Boylston streets; Charles C. Goodwin, 38 Hanover street; B. F. Stacey, Thompson square, Charlestown; Henry Canning, 109 Green street; Miner L. H. Leavitt, corner Cambridge and Chambers streets; W. W. Bartlet, 675 Shawmut avenue; Max Cramer, 1350 Tremont street; S. A. D. Sheppard, 1129 Washington street; J. G. Benedict, 24 Tremont street; W. L. Scoville, corner St. Botolph and Garrison streets; Charles A. West, 99 Broad street; C. H. Bassett, Tremont, corner Mason street; Geo. H. Vargas, 474 Columbus avenue, Boston; G. W. Cobb, corner Saratoga and Brooks streets, East Boston; E. H. La Pierre, 32 River street, Cambridge, Mass.; E. A. Robinson, Lowell, Mass.; C. H. Price, Salem, Mass.

July 9th, 10th, and 11th, Boston Committee—Churches and local points of interest: W. C. Durkee, chairman, and Messrs. Scoville, Leavitt, Robinson, Vargas, Cobb, Godding, Cramer, Benedict.

July 11th, Charlestown Committee—B. F. Stacey, chairman, and Messrs. Cobb, Godding, West (forenoon).

Cambridge Committee—E. H. La Pierre, chairman, and Mr. Bassett (afternoon).

Concord and Lexington Committee—W. L. Scoville, chairman, and Messrs. Goodwin, Leavitt, Bartlet (all day).

Plymouth Committee—E. L. Patch, chairman, and Messrs. Vargas and Benedict (all day).

Salem Committee—C. H. Price, chairman, and Mr. S. A. D. Sheppard (afternoon).

Boston Committee—Local points of interest in forenoon.

July 12th, 8:30 A.M. to 12:30 P.M —Harbor excursion: E. L. Patch, chairman, and Messrs. Bartlet, Cramer, Robinson.

2:30 P.M. to 5 P.M.—Carriage Drive: B. F. Stacey, chairman, and Messrs. Canning, Bassett, Benedict.

7:30 P.M.—Reception at Vendome: Chas. C. Goodwin, chairman, and Messrs. Bassett, West, Godding, Canning.

Expenses of the reception and the various excursions for visiting members and delegates from outside the State will be provided for by the committee.

NEW ENGLAND.

J. T. BROWN & Co. have moved to their new store on Tremont street, Boston. The effect as one enters the store is gorgeous; white and gold predominate. The ceiling is finished in discs of metallic lustre, with gold trimmings. The fixtures are white. A new soda fountain, of the Low Art Tile Co.'s manufacture, stands near the street door.

Springfield's city marshal has secured evidence against many prominent druggists of illegal liquor selling on Sundays.

The Public Health Committee gave several hearings last month to the Board of Pharmacy on their petition for an appropriation of $2,000. The committee is still holding the matter under advisement, but it is understood on good authority that an appropriation of at least $1,500 will be recommended. The druggists throughout the State, and especially in non-licensed places, are anxious that this money be granted. This appropriation—if allowed—will enable the board to pay more attention to non-registered pharmacists.

Officers of Station 10 arrested FREDERICK E. KEENE, an apothecary at 1951 Washington street, Boston, recently, and charged him with an illegal sale of liquor.

The Board of Pharmacy, at sessions held March 29th, 30th, and 31st, examined 44 applicants, and granted certificates as pharmacists to John A. McIntosh, Boston; John MacDonnell, Boston; Fred Howard, Lowell; Edward L. Dam, Portland; Patrick J. Lawlers, Milford; James C. Fausnaught, Boston; Charles E. Johnson, Boston; John B. Carpenter, Swampscott; Frederick R. Bartlett, Boston; Matthew A. Corman, Lynn; Patrick H. Maloney, Blackinton, and Clarence L. Percy, Chelsea.

That absurdity known as the "Town Agency Bill" has at last been defeated. It was killed in the House on April 2d. Among other provisions it absolutely prohibited the granting of sixth-class licenses in towns voting no license, and restricted the appointment of keepers of these agencies to those "who shall not be engaged in the drug or apothecary business." The penalty for a second offence was "not less than $50 and imprisonment in the house of correction for not *less* than thirty days." With this for the minimum penalty, what would the maximum be? The defeat of this bill was not easy, and no man deserves more credit for aiding in its downfall than does that sturdy opponent of unfair attacks upon the drug trade, President William W. Bartlet of the Massachusetts Druggists' Alliance. The temperance cause has no warmer friend than Mr. Bartlet, but when he sees an unjust blow aimed at the honest druggist he returns it twofold. The druggists of this State are to be congratulated upon having so sturdy a champion.

JAYNES & Co. have purchased the store of I. Bartlett

Patten at the corner of Beach street and Harrison avenue, Boston.

The following is a brief sketch of T. C. Barden, who was recently elected to fill a vacancy on the school board:

Timothy C. Barden was born in Hyde Park in 1859. He graduated from the high school, and then entered the employ of Messrs. David Evans & Co., druggists, in that town. From there he went to Keeler's drug store in Charlestown, where he remained five years. Afterward he engaged with druggist William Morris, corner of B street and Broadway, South Boston. He succeeded to the business in 1885, and he has continued there up to the present time. Mr. Barden, who has never before held any public office, began to take an active interest in politics about two years ago. He belongs to several societies, and is very popular in his district. He was married last year, and resides at No. 7 Gates street.

The Chelsea police raided apothecary shops on March 24th, and seized small quantities of liquor from Alexander C. Martin on Broadway, and Samuel Brown and S. Brown & Co., Pearl street.

The March meeting of the Boston Druggists' Association took place on the evening of the 29th at Young's Hotel. The following gentlemen were admitted to membership: Henry M. Whitney, Joshua M. Cushing, J. Edward Rolland, and John I. French. Edward Atkinson, Esq., was present, and discussed "Silver Repudiation" at length.

The following resolutions were offered by Mr. William W. Bartlet:

Whereas, A bill has been introduced into the Legislature entitled an act to establish "Town Agencies" for the sale of intoxicating liquors for medicinal, mechanical, and chemical purposes in cities and towns voting to grant no license; and

Whereas, Said bill has evidently been drawn with the express intention of depriving the druggists of the State of the privilege which they now enjoy of a sixth-class license when the licensing boards decide that they are fit and proper persons to enjoy the same; and

Whereas, This bill further provides that every class of citizens in the commonwealth except druggists and apothecaries are eligible to hold the office of "Town Agents"; therefore

Resolved, That we, members of the Boston Druggists' Association, heartily condemn this bill as totally uncalled for, unfair, misleading, and a disgrace to every honest pharmacist in the commonwealth, and that we will use every honorable means in our power to prevent its enactment.

These resolutions were referred to a committee consisting of Messrs. Ingraham, Orne, Durgin, and Bowker with full powers. The next meeting occurs on the 26th of the present month.

The second annual report of the State Commission of Pharmacy, Charles R. Tufts of Dover, Ed. H. Currier of Manchester, and George F. Underhill of Concord, have been filed with the Governor and Council of New Hampshire.

Among the successful applicants was Miss Addie M. Stevens, of Concord, who was the first lady to be registered as a skilled pharmacist, and she proved herself well qualified.

The whole number of pharmacists registered in the State on December 1st, 1891, was 489; the number registered the past year was 25.

Two drug clerks of Boston have been raising high jinks recently in the company of two jailbirds. The drug clerks were until recently in the employ of a prominent Tremont street firm; the jailbirds were fresh from a sojourn in State prison, where they were sent for robbing a Brattle Square jeweller. The acquaintance of these two factions was probably due to their practice of "hitting the pipe" together. This habit was indulged in, it is understood, both in and out of the store. This intimacy culminated in the theft of all the money in the till of the employers of the drug clerks on the night of February 12th. The method of performing the "job" was as follows: Drug Clerk No. 1, who was acting as night clerk on the eventful night, was called up by Culprit No. 1 for the alleged purpose of filling some prescriptions, which rendered it necessary for the drug clerk to go to the rear room of the store, leaving his customer in possession of the front shop. In the absence of the clerk the thief's companion entered the store and secreted himself. After filling his customer's order and allowing him to depart, the clerk locked up the store and retired. The thief inside the store then admitted his confrère, and the money ($120) was easily stolen. Here is where Drug Clerk No. 2 appears upon the scene, for the thieves, in a moment of over-confidence and "smoke talk," confessed the deed. This clerk related what he heard to the police, and the thieves were soon brought to court, where they were held for the grand jury. Now the robbers wish they "hadn't told," and two drug clerks are in search of situations.

Since January 1st the State Board of Health has found the percentage of adulteration of food and drugs to be 28.95. The samples of drugs found to be adulterated were extract of licorice, red wine, tincture of nux vomica, tincture of opium, citrate of iron and quinine, compound spirit of ether, deodorized tincture of opium, distilled water, extract of licorice, red wine, spirit of nitrous ether, subnitrate of bismuth, stronger ether, and white wine.

JOSEPH F. PARKER, of 232 Tremont street, Boston, is to have a new soda fountain of Matthews' manufacture.

Lowell, the "Spindle City" of this commonwealth, has a population of 77,000 and 88 drug stores and so-called drug stores. A short time ago the number of drug stores did not exceed 40; but the number of licenses for saloons were restricted by law, and the barkeepers who did not receive permits to sell were told by their political friends that if they would furnish and make a pretence of running drug stores sixth-class licenses would be issued to them. This accounts for the large number of dives which flourish in that city under the guise of [drug] stores. This state of affairs is an insult to the trade and should not be allowed to exist.

GENERAL.

A SUIT of great interest to pharmacists was defaulted in the U. S. Circuit Court in St. Louis March 25th. Suit was brought against Mr. Enno Sander, of that city (a gentleman well known to many pharmacists throughout the country), ostensibly by the city of Carlsbad and others, to restrain him from using the term "Carlsbad," also the term "Sprudel." Mr. Sander was supplying to the trade mineral waters and salts included under these terms. The plaintiffs, when the case was called, failed to appear, and the suit was defaulted. The thought protrudes itself: Was not the intention when the suit was first brought, that if Mr. Sander failed to be frightened, to default it? Probably next we shall hear it heralded as a victory for the plaintiffs. We rejoice to find one man with means enough and vim enough to fight such glaring wrongs as these oft-repeated suits by corporations who seek to claim a monopoly of old names and terms, that have been common property for generations, under the claim of copyright, knowing that many a man will be frightened into desisting from using these terms through fear of a long and costly suit. Probably some one will next lay claim to the use of "Saratoga" waters or "Seidlitz" powders. It would be about as sensible.

The Temperance League of an Illinois town have lately been having a little sport with a firm of druggists of that place, and claim that they have scored a signal victory. It was claimed on the part of the temperance people that the druggists kept the only *saloon* in the town. And if they kept a drug store (?) after the manner of some that we could mention, we do not wonder at the claim that it *was* a saloon, nor would we blame the townspeople for desiring to suppress it, and congratulate them on taking legal measures rather than resorting to force. The firm had paid several fines for illegal selling, and finding another shower of indictments descending on them, agreed to quit and leave the place if the indictments were quashed, which proposition was accepted.

MR. W. S. PELLETT, for several years in the employ of Rainbow & Thomas, Murphysboro, Ill., has just opened a new drug store of his own in that town, with very flattering prospects of success.